



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/813,687	03/31/2004	Patricius Aloysius Jacobus Tinnemans	081468-0308853	4349
909	7590	12/15/2006	EXAMINER	
PILLSBURY WINTHROP SHAW PITTMAN, LLP			NGUYEN, HUNG	
P.O. BOX 10500			ART UNIT	
MCLEAN, VA 22102			PAPER NUMBER	
			2851	

DATE MAILED: 12/15/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/813,687	Applicant(s) TINNEMANS ET AL.	
	Examiner Hung Henry V. Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-8 and 10-22 is/are pending in the application.
- 4a) Of the above claim(s) 11-14,19,20 and 22 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,5,6,8,10,15,18 and 21 is/are rejected.
- 7) ☒ Claim(s) 3,4,7,16 and 17 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 3/31/04 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on November 20, 2006 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country, or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

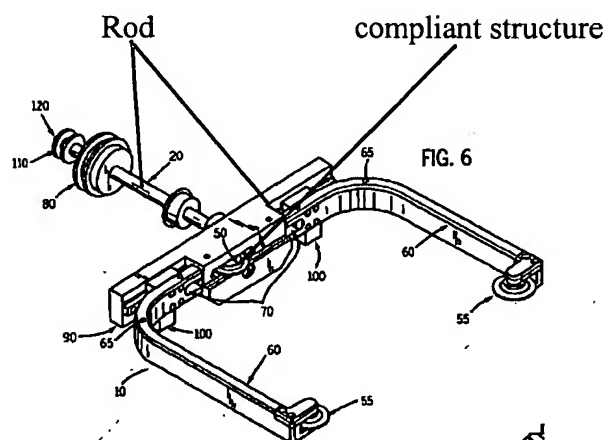
(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Art Unit: 2851

3. Claims 1, 5-10, and 15 are rejected under 35 U.S.C. 102(e) as being anticipated by Hofer et al (U.S.Pat. 6,828,772).

With respect to claims 1, 8, and 15, Hofer et al discloses a lithographic support system (5) comprising all structures set forth in the instant claim such as: a moveable support structure (20, 60) to support and move a substrate (40) the support structure comprising a rod (20, 90) coupled a support frame that is provided with a clamp (60) for clamping the substrate (40) and a drive wheel edge assembly (50) can be regarded as a compliant structure for rotating the substrate to compensate for at least one of a tilt and displacement between the substrate (40) and the clamp (60). As clearly illustrated from the disclosure of Hofer'772 (see figure 6A), the semiconductor wafer/object (40) is forced upward along an incline area on the wedge assemblies (50 and 55), thus one of the functions of the wedge assemblies (50 and 55) is to secure the wafer and to neutralize the effect of variations (such as the displacement) between the wafer/object and the clamp (60) (see col.6, lines 2-24). Hofer further teaches the support structure (5) comprises a robot arm (see figure 6) having a support frame (60) for holding the substrate (40) and the compliant structure (50) being provided on the on the rod (90) or support frame (60). (see figure 6).



As to claim 5, Hofer et al discloses the support frame (60) comprises the compliant structure and a second compliant structure (55) provided on the clamp (60).

Regarding claim 6, Hofer et al discloses that the support frame is in a plane defined by a x-axis, and a z-axis being perpendicular to the x-axis and the y-axis, the compliant structure providing a compliance in at least one of the first rotation about the x-axis, a second rotation about the y-axis, and a z-direction parallel to the z-axis (see col.4, lines 46-67 and col.5, lines 19-50).

As to claim 7, Hofer et al discloses the compliant structure is arranged such that the support frame (60) is allowed to rotate about a predetermined center of rotation (see col.5, lines 25-30).

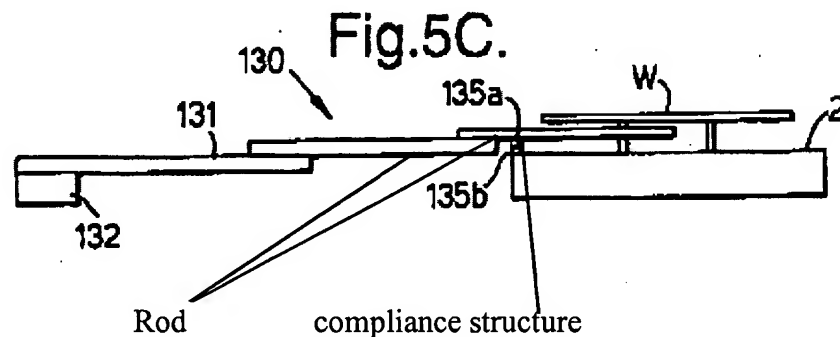
As to claim 10, Hofer et al discloses the compliant structure having a metal flexure (see figure 6A).

4. Claims 1, 5-6, 8, 10 and 15, 18 and 21 are rejected under 35 U.S.C. 102(b) as being anticipated by Segers et al (U.S.Pat. 6,404,483).

With respect to claims 1, 15, 18 and 21, Segers et al discloses a lithographic apparatus and corresponding method (see figure 1) comprising all structures set forth in the instant claims such as: a radiation system (LA) configured to provide a beam of radiation; a support structure (MT) for supporting a patterning device (M); a substrate holder (WT) for holding a substrate (W); a projection optical system (PL) for projecting the patterned formed on the patterning device onto the substrate; and a support system for holding and moving one of the substrate, the patterning device; the support structure (see figure 5A) having a robot arm (130) having a rod

Art Unit: 2851

(131) coupled to a support frame that is provided with a clamp (134) for clamping the substrate (W) and Segers teaches a compliant structure (133a) for compensating at least one of a tilt and displacement between the substrate (W) and the clamp (134) (see col.7, lines 10-25) wherein the compliance structure is provided on the rod or the support frame (see figure 5c).



As to claim 5, Segers et al discloses a second compliant structure (135b) provided on the clamp.

Regarding claim 6, Segers et al discloses that the support frame is in a plane defined by a x-axis, and a z-axis being perpendicular to the x-axis and the y-axis, the compliant structure providing a compliance in at least one of the first rotation about the x-axis, a second rotation about the y-axis, and a z-direction parallel to the z-axis (see figures 5A-6B).

As to claim 7, Segers et al discloses the compliant structure is arranged such that the support frame (133) is allowed to rotate about a predetermined center of rotation (see col.7, lines 7-8).

As to claim 10, Segers et al discloses the compliant structure having a metal flexure (135a).

Response to Amendment

5. Applicant's amendment filed October 23, 2006 has been entered. Claims 1, 3-6, 15-18 and 21 have been amended. Claims 2, 9 have been cancelled. Applicant's arguments have been carefully reviewed and considered but the cited references of Hofer et al'772 and Segers et al '483 still meet limitations of the claims 1, 5-8, 10, 15, 18 and 21 still meet as set forth above.

Allowable Subject Matter

6. Claims 3-4, 7 and 16-17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

7. The following is a statement of reasons for the indication of allowable subject matter: the prior art of record either alone or in combination, neither discloses a lithographic support system comprising among other features, a compliant structure having specified structures for compensating at least a tilt and displacement between the object and the clamp, as recited in the mentioned claims of the present application.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V. Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Diane Lee can be reached on 571-272-2399. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2851

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

A handwritten signature in black ink, appearing to read 'Hung Henry V Nguyen', with a long horizontal flourish extending to the right.

Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
12/10/06